

- Many know

Many known occurrences and/or geologically very favorable for prospecting

Few known occurrences but geologically favorable for prospecting



No known occurrences and probably geologically unfavorable for prospecting



Insufficient information to evaluate. Requires additional geologic, geochemical, and/or geophysical data

This map was compiled and drafted December 5, 6, and 7, 1977 in response to a request by the U.S. Forest Service for an immediate evaluation of the mineral resource potential of proposed Roadless and Undeveloped Areas in the national forests of Washington. The Roadless and Undeveloped Areas, defined by the Forest Service for purposes of the Rare II inventory, are shown on a published map (U.S. Forest, 1977). A slightly modified later edition of the Rare II map (U.S. Forest Service, 1978) became available after the U.S. Geological Survey's mineral potential map was prepared.

Numbers on this map identify individual roadless and undeveloped areas; these numbers correspond with numbers on the map prepared by the U.S. Forest Service (1977), which also includes listings of the individual areas by National Forest and the size, in acres, of each area. Unpatterned and numbered areas are existing or proposed Wilderness or Primitive areas, some of which have been evaluated for their mineral potential under provisions of the Wilderness Act (Public Law 88-577).

Because of the short time available for this evaluation, an exhaustive compilation of much of the data in the public record was not possible. This appraisal, therefore, is based largely on the inventory of Washington minerals by Huntting (1956) and the other geologic maps and descriptions listed below, evaluated in the light of the authors' understanding of the geologic setting of mineral deposits in Washington. We gratefully acknowledge the advice of F. C. Miller, R. W. Tabor, C. D. Rinehart, and N. G. Banks, U.S. Geological Survey, on the resource potential of parts of Washington of which they have personnal knowledge.

The appraisal was delivered and discussed orally with members of the U.S. Forest Service on December 8 and 9, 1977, in Menlo Park, California. The map and brief explanation have been placed on open-file by public request.

References

Castor, S. B., Berry, M. R., and Robins, J. W., 1977, Preliminary report on uranium and thorium content of intrusive rocks in northeastern Washington and northern Idaho: Bendix Field Engineering Corp., Grand Junction, Colorado, Report GJBX-89(77), 41 p.

Hammond, P. E., 1975, Preliminary geologic map and cross sections with emphasis on Quaternary volcanic rocks, southern Cascade Mountains, Washington: Washington Div. of Geol. and Earth Res., unpub. map.

Huntting, M. T., 1956, Inventory of Washington minerals, Part 2--Metallic minerals: Washington Div. Mines and Geology Bull. 37, 2 volumes, v. 1--Tex, 428 p., v. 2--Maps, 67 p.

W. S., 1961, Geologic Map of Washington: Washington Div. Mines and Geology, scale 1:500,000.

Hunting Geophysical Services, Inc., 1960, Geological interpretation of

Huntting, M. T., Bennett, W. A. G., Livingston, V. E., Jr., and Moen,

airborne magnetometer and scintillometer survey: Mt. Bonaparte, Bodie Mountain, Curlew, Aeneas, and Republic Quadrangles, Okanogan and Ferry Counties, Washington: Washington Div. Mines and Geology Rept. Inv. 20, 34 p.

Miller, F. K., and Yates, R. G., 1976, Geologic map of the west half of the Sandpoint 2° quadrangle (Washington-Idaho): U.S. Geol. Survey Open-file Map, scale 1:125,000.

Misch, P., 1966, Tectonic evolution of the Northern Cascades of Washington State--A west Cordilleran case history, in A symposium on the tectonic history and mineral deposits of the western Cordillera, Vancouver, B.C., 1964: Canadian Inst. Mining and Metallurgy Spec. Vol. 8, p. 101-148, illus., geol. map.

Moen, W. S., 1977, St. Helens and Washougal mining districts of the southern Cascades of Washington: Washington Div. of Geol. and Earth Res. Inf. Circ. 60, 71 p.

Rinehart, C. D., 1976, Reconnaissance geochemical survey of gully sediments and geologic summary, in part of the Okanogan Range, Okanogan County, Washington: U.S. Geol. Survey Open-file Rept. 76-680

Staatz, M. H., Tabor, R. W., Weis, P. L., Robertson, J. F., Van Noy, R. M., and Pattee, E. C., 1972, Geology and mineral resources of the northern part of the North Cascades National Park, Washington: U.S. Geol. Survey Bull. 1359, 132 p.

Staatz, M. H., Weis, P. L., Tabor, R. W., Robertson, J. F., Van Noy, R. M., Pattee, E. C., and Holt, D. C., 1971, Mineral resources of the Pasayten Wilderness Area, Washington: U.S. Geol. Survey Bull. 1325, 255 p.

Tabor, R. W., and Cady, W. M., 1978, Geologic map of the Olympic Peninsula, Washington: U.S. Geol. Survey Misc. Geol. Inv. Map I-994, scale 1:125,000.

U.S. Forest Service, 1977, Washington National Forests Roadless and Undeveloped Areas: U.S. Forest Service Map, scale 1:1,000,000.

_____, 1978, Roadless and undeveloped area evaluation II, RARE II: U.S. Forest Service Map, scale 1:1,000,000.

Weissenborn, A. E., and Cator, F. W., 1964, Mineral resources and geology of the north Cascade Mountains study area: North Cascades Study Team, Bureau of Outdoor Recreation, U.S. Dept. Interior, Washington, D.C., Open-file Rept.

U.S. GEOLOGICAL SURVEY
OPEN FILE REPORT
This map is preliminary and has not been edited or reviewed for conformity with Geological Survey standards

MAP OF WASHINGTON RARE II MINERAL RESOURCE POTENTIAL

APPRAISAL OF MINERAL RESOURCE POTENTIAL OF PROPOSED ROADLESS AREAS IN NATIONAL FORESTS, WASHINGTON (EXCLUSIVE OF COAL, OIL, GAS,

AND CONSTRUCTION MATERIAL)

By K. F. Fox, Jr., T. H. Kiilsgaard and A. E. Weissenborn, 1978